

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D.C.



PMD NO: K-C 7094-(3)/PE 33601F/SCOPE DAWN

DATE: 8 MAY 1978

HQ USAF PROGRAM OFFICER: Captain J. B. York/KRCOS/70477

HQ USAF PROGRAM MANAGEMENT DIRECTIVE

for

SCOPE DAWN

(LINCOLN EXPERIMENTAL SATELLITE (LES)
8 and 9 OPERATIONAL CAPABILITY)

FOR: AFCS, AFSC, AFLC, MAC, PACAF, SAC, TAC, USAFE.

1. SPECIFIC PURPOSE: AFCS is tasked as implementing and operating command for the SCOPE DAWN project. This project provides an ultrahigh frequency (UHF) satellite communications (SATCOM) capability to the Worldwide Airborne Command Post (WWABNCP) System, associated ground terminals, the President and other approved users having Tactical Satellite Communications (TACSATCOM) ground and airborne terminal equipment capable of operating with the UHF mode of the LES 8/9 satellites. AFLC is supporting command for this project. AFSC, MAC, PACAF, SAC, TAC, and USAFE are participating commands. This PMD supercedes PMD's K-C 7094-(1) and -(2).

2. PROGRAM SUMMARY:

a. References required for management of this project (including attachments):

(1) Memorandum of Agreement (U) between the Director of Command Control and Communications, USAF, and the Director of Naval Telecommunications Division, USN, relative to deployment and operation of LES 8 and Navy leased satellite communications service (GAPFILLER) on the same UHF frequencies, 17 Oct 73.

(2) JCS Memorandum SM-482-74 (C), "Development of the LES 8/9 Interim Capability Plan" (U), 17 Sep 74.

(3) Logistics Support Plan for TACSATCOM IOC (U), Sacramento ALC, Nov 77.

(4) Security Classification Guide for AFSATCOM, HQ SAMS0, Jan 77.

(5) PMD R-S 2-134-(8)/PE 63431F (S), "Advanced Space Communications" (U), 19 Dec 77.

87- AIR- 1361 LC

(6) Chief of Naval Operations message (S), 161820Z JUN 77.
"GAPFILLER - LES 8 Compatibility (U)."

b. References related to this project (including attachments):

(1) Naval Telecommunications Procedures NTP-2, (C), Section II(B), GAPFILLER, Naval Telecommunications Command, Mar 77.

(2) Memorandum of Agreement (U), between the Department of the Air Force and Department of the Navy relative to WWABNCP use of the GAPFILLER UHF satellite, 6 Jul 76.

c. Priority: Precedence rating 2-20, Force/Activity Designator II apply to this project.

d. Approvals:

(1) OSD/DTACCS Memorandum (U), "Requirements for Interim UHF Communications Satellite Capability", 15 Feb 76, assigned to the Air Force the role of "Executive Service" for LES 8 and 9; authorized the JCS to exercise operational control of LES 8/9 UHF communications subsequent to completion of their R&D mission; requested the OJCS, Air Force and Navy determine the frequency interference problems that may arise with the operation of LES 8/9, GAPFILLER and FLTSATCOM satellites; and develop an optimum working arrangement which does not impact the primary mission of these satellites.

(2) On 24 Feb 78, HQ USAF approved the SCOPE DAWN Concept of Operations (S), dated 1 Feb 78.

e. Required Operational Capability: The purpose of the SCOPE DAWN project is to provide an interim UHF SATCOM capability until the AFSATCOM 1 System now being developed is operational. The specific required operational capability satisfied by this PMD is direct air-to-air UHF connectivity through the LES 8/9 satellites from the National Emergency Airborne Command Post (NEACP) to the CINCSAC and CINCPAC Airborne Command Posts (APNCPs). All other users having TACSATCOM ground and airborne terminals may also be provided access, IAW reference 2d(2).

f. Background and Justification:

(1) From 1970 through early 1976 the TACSATCOM IOC provided UHF SATCOM capability for the National Military Command System, the WWABNCP System, Presidential Communications, test range support and other US Army, Navy, Air Force, Marine Corps and Joint users. In June 1973 the Tactical Satellite (TACSAT) I serving the Pacific theater failed, leaving this area without a UHF SATCOM capability, and in March 1976 the LES 6 satellite serving the Atlantic area was turned off.

(2) In March and June 1976, the US Navy's leased GAFILLER satellites were launched, providing UHF service over the Atlantic and Pacific Oceans. The on-orbit positioning arrangement of the two GAFILLER satellites is such, however, that a gap in coverage exists over the central CONUS, thus precluding direct air-to-air UHF SATCOM connectivity from NEACP to the CINCSAC and CINCPAC ABNCPs. A third GAFILLER satellite was launched in November 1976 over the Indian Ocean, but did not affect the mid-CONUS coverage gap.

(3) The LES 8/9 satellites were launched in March 1976 into synchronous, non-geostationary orbits nearly in the plane of the elliptic, centered approximately over 105° W and 40° W. The objective of the LES 8/9 test program was to demonstrate techniques for improving survivability of SATCOM links for next generation satellite communications systems. These tests were completed on 30 Sep 1977.

(4) The ability to use the LES 8/9 500 KHz UHF mode to satisfy this requirement was recognized by the JCS as early as 1972, and later approved by OSD/DTACCS (reference 2d(1)). However, potential frequency interference with the Navy's GAFILLER satellites precludes use of LES 8 for operational traffic (ref 2a(6)). It was therefore necessary to re-position LES 9 to a new location over the central CONUS to accomplish the SCOPE DAWN mission. Using LES 9 at 95° W with the GAFILLER satellites can provide the WWABNCP community and other high priority users a world-wide, reliable, secure teletype satellite communications capability. This capability will continue in use until the AFSATCOM system now being developed becomes operational in the post 1980 time frame.

3. PROGRAM MANAGEMENT DIRECTION:

a. AFCS will:

(1) Maintain, update and republish as necessary the SCOPE DAWN Concept of Operations, and Operations Guide (ref 2d(2)).

(2) Maintain a SCOPE DAWN operations center at the TACSATCOM Tactical Relay and Operations Center (TROC) at Brandywine, MD, and a SCOPE DAWN Technical Management Office (TMO) at HQ AFCS. Responsibilities are defined in the SCOPE DAWN Concept of Operations.

(3) Install, test and operate at the Wahiawa station an additional TACSATCOM terminal to provide a simultaneous 2-satellite transmit/receive and GAFILLER-LES 9 relay capability.

(4) With assistance from AFSC and AFLC as appropriate, continue to evaluate the total operations, maintenance and communications environment needed to support the SCOPE DAWN project. Recommendations concerning

improvements to TACSATCOM facilities required for this project should be provided to HQ USAF. The recommendations should include financial planning data and a narrative description of the proposed improvements.

(5) Submit to HQ USAF a report NLT the 10th of each month, summarizing the progress made in the previous month and identifying the project goals for the current month. Addressees should be AF/KRCO/RDSC/X000.

b. AFSC will:

(1) Be the principal point of contact for coordinating the tasks of this PMD with the MIT Lincoln Laboratory and with other directed LES 8/9 R&D tasks. It is not intended that any task in this PMD adversely affect the primary LES 8/9 survivable satellite communications R&D mission. In the event of a conflict between the requirements of this PMD and those of the Advanced Space Communications PMD (reference 2a(5)), the latter will apply.

(2) Continue to fund SCOPE DAWN orbital support.

(3) Assist AFCS, as requested, in developing plans and procedures required to carry out effectively the day-to-day operational management of the SCOPE DAWN space segment.

c. AFLC will:

Continue to provide SCOPE DAWN logistics support.

d. MAC, PACAF, SAC, TAC and USAFE will:

(1) Operate and maintain TACSATCOM terminal equipment assigned to their organizations which support Specified and Unified Commands or special operating activities.

(2) When necessary, assist AFCS in updating sections of the SCOPE DAWN Concept of Operations applicable to their respective commands.

e. Joint responsibilities:

AFCS, AFSC and AFLC shall each be responsible for determining the funding required to support their respective portions of the tasks directed by this PMD. Required funding shall be identified to HQ USAF by fund type and fiscal year. A description of the work to be accomplished and a statement giving the impact of delaying or denying the funding shall accompany the original submission.

4. PROGRAM GUIDANCE:

a. Relationships:

(1) HQ USAF office of primary responsibility for SCOPE DAWN is AF/KRCO. The Program Element Monitor (PEM) for PE 33601F/AFSATCOM and PE 63431F/Advanced Space Communications is AF/RDSC. Approved funding directly required for SCOPE DAWN will be in PE 33601F, CEMPAC Code 3HRC00. Funding for LES 8/9 activities not directly supporting SCOPE DAWN will remain in PE 63431F. Collateral interests for SCOPE DAWN within HQ USAF are: AF/X000 - operational requirements and utilization; AF/LGYE - logistics support; AF/KRCX and AF/ACBO - O&M (3400) programming; AF/PRPR and AF/PRPS - program analysis. AF/RDSC/PRPR/PRPS will be information addresses on all SCOPE DAWN correspondence concerning funding.

(2) Direct channels of communication are authorized among Air Force operating, supporting and participating organizations, and with other Services and Agencies as required to implement the provisions of this PMD.

b. Manpower: Manpower needed to implement this PMD shall be provided from within existing resources in PE 33601F, CEMPAC Code 3HRC00.

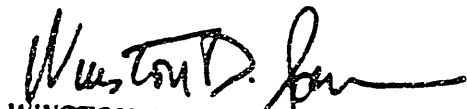
c. Funding, and budget guidance:

(1) The following reflects the FY 79 President's Budget and F&FP funding profile for SCOPE DAWN, and is to be used for planning purposes only.

(\$ in millions)	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>
PE 33601F (3400)			
LES Operations Center	0.44	0.44	0.44

(2) This PMD does not constitute approval to commit, obligate or expend funds except as authorized in the appropriate PA/BA.

FOR THE CHIEF OF STAFF



WINSTON D. POWERS

Colonel, USAF

Deputy Director of Telecommunications,
and Command and Control Resources

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